

## REMARKS/ARGUMENTS

The Office action dated December 29, 2010 has been received and carefully considered. By this amendment, Claims 1, 11, and 17 are amended. No new Claims have been added. After entry of this Amendment, Claims 1-20 will be pending. In view of these amendments and the following remarks, Applicants respectfully request reconsideration.

### 35 USC §103

The Office rejected **claims 1-16** as being obvious over Yao (U.S. Pat. No. 6,166,050) in view Agrawal et al. (U.S. Pat. No. 6,166,051) and further in view of Mehra (U.S. Pat. No. 5,678,854) and Jain et al. (U.S. Pat. No. 6,453,698). The applicant respectfully disagrees for various reasons, especially in view of the amendments herein.

As amended herein, claim 1 expressly requires the absorber to be configured such that the second portion of the distillation column overhead provides a *vapor stream enriched in ethane* for ethane re-absorption at a bottom portion of the absorber. Similarly, amended claim 11 requires feeding of a second portion of the distillation column overhead as *an ethane-enriched vapor stream* to the absorber for ethane re-absorption at a bottom portion of the absorber. These elements are neither taught nor suggested by the references, alone or in combination.

Moreover, and even more significantly, the office pointed to Yao stating that the '050 patent would teach an absorber configured to receive first and second portions of a feed gas liquid and pointed to items 19 and 66 in support thereof. While item 19 is indeed a liquid fraction of a feed gas, item 66 is a vapor phase of heavier liquids from the demethanizer bottoms and is used as a stripping gas. Such vapor phase is clearly inconsistent with the liquid portion as presently claimed.

Still further, the office appeared to argue that when looking to Agrawal, the PHOSITA would have been motivated to include two overhead streams [from the distillation column] in the absorber in order to increase the rate of condensation in the absorber column of Yao. It is not clear to the applicant what the office intends to express. First, the distillation column overhead in Yao is already fully condensed before it enters the absorber as a reflux. How splitting and using a second stream would increase the rate of condensation is not apparent to the applicant.

Moreover, it should be noted that the claims as amended require that the second portion is a vapor portion (e.g., in superheated state), which is contrary to the examiner's argument.

Consequently, and at least for the above reasons, Yao and Agrawal fail to provide all of the elements of the claims as amended herein. A combination with Mehra fails to remedy these defects. In fact, it is pointed out that the present claims require that the second portion is fed from the distillation column overhead to the absorber. However, Mehra teaches routing of the distillation column overhead to a stabilizer and not the absorber. Setting these defects aside, it should further be noted that Mehra's the stabilizer overhead is methane enriched and not ethane-enriched as presently claimed. Thus, the combination of Yao, Agrawal, and Mehra fail to teach or suggest the presently claimed subject matter. Jain fails to remedy the above defects.

Therefore, and in light of the above amendments and arguments, the applicant believes that the rejection of claims 1-16 as being obvious over Yao in view Agrawal et al. and further in view of Mehra and Jain et al. should be overcome.

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The Office rejected **claims 17-20** as being obvious over Yao (U.S. Pat. No. 6,166,050) in view of Jain et al. (U.S. Pat. No. 6,453,698). The applicant once again respectfully disagrees for various reasons, especially in view of the amendments herein.

With respect to Yao, the same considerations and defects as pointed out above apply. Jain fails to remedy these defects. As already pointed out in the prior response, it is noted that Jain's teachings fail to apply to the instantly claimed subject matter. While Jain indeed varies feed streams to the distillation column, it is for the purpose of controlling the composition leaving that same distillation column. In contrast, the claimed subject matter requires that the feed stream ratios to the absorber are changed such that the composition in the distillation column bottom product is varied. Thus, modification of Yao using the teachings of Jain fails to result in the claimed subject matter. For at least these reasons, the rejection of claims 17-20 should be withdrawn.

**Request For Allowance**

Claims 1-20 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,  
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